<u>nayunsas sasann</u>

FIGURE 1

Alignment of Biotin Synthase Proteins from Barley (SID18), Corn (SID 20-24), Prickly Poppy (SID 28), Soybean (SID 28 and 30), and Wheat (SID 32)

MMSTIYRHLSTARPALTKYATNAAVKSTTASSEASTLGALQYALSLDEPSHSWTKS	6321725
M	2995363
MATLRTSLSRSLILLRSNTPKLAPISSSVRLQVQKSRNYGTVSSVPPQATETSSTSPSKDVYQEALNATE-PRSNWTRE	SID30
MMLVRSVFRSQLAPSV-SGGLQSASCYSSLSAASAEAERTIREGPRNDWSRD	1705463
<u> </u>	SID32
TKPNPKHKYRCCLLSLSCLYSQISHSFSVVSLPNFEFESKNMFLARPIFRAPSLWALHSSYAYSSASAAAIQAERAIKEGPRNDWSRD	SID28
MLKVQSL-RARLRPLIFISTFSSLSSSSSAAAVQAERTIKEGPRNDWSRD	SID26
MAAAAFSSAAAEAERAIRDGPRNDWSRP	SID24
MAAAAFSSAAAEAERAIRDGPRNDWSRP	SID22
MAAAAFSSAAAEAERAIRDGPRNDWSRP	SID20
TTTPSAVSPSAAAAPFRPALLAEPAMMLLLARSLRSRVRSPFASAVSAAPFSSVSAAAAEAERAVRDGPRNDWTRP	SID18

----SSRYNTGLKAQKLMNKYAVLEAAKKAKESGSTRFCMGA EIQAVYDSPLLDLLFHGAQVHRNVHKFREVQQCTLLSIKT*GGCSEDCSYCPQ*SSRYNTGLKAQKLMNKYAVLEAAKKAKESGSTRFCMGA EIKAIYDKPLMELCWGAGSLHRKFHIPGAIQMCTLLNIKT*GGCSEDCSYCAQ*SSRYQTGLKASKWVSVESVLAAARIAKDNGSTRFCMGA EIQKIYDTPLIDLIFRAASIHRKFHDPKKVQQCTLLSIKT*GGCTEDCKYCAQ*SSRYNTGVKATKLMKIDEVLEKAKIAKAKGSTRFCMGS QLKEIYHTPLLELTHAAQLQHRKWHDPTKVQLCTLMNIKS*GGCSEDCKYCAQ*SSRNDTGLKAEKWVKVDEVIKEAEEAKRNGSTRFCLGA EIQAIYDSPLLDLLFHGAQVHRNVHKFREVQQCTLLSIKT*GGCSEDCSYCPQ*SSRYSTGLKAEKLMKKDAVLEAAKKAKEAGSTRFCMGA EIQAVYDSPLLDLLFHGAQVHRNVHKFREVQQCTLLSIKT*GGCSEDCSYCPQ*SSRYNTGLKAQKLMNKDAVLEAAKKAKESGSTRFCMGA EIKSVYDSPVLDLLFHAAQVHRHAHNFREVQQCTLLSVKT*GGCSEDCSYCPQ*SSRYDTGVKAQKLMNKDAVLQAAEKAKEAGSTRFCMGA OVKSIYDSPILDLLFHGAQVHRHAHNFREVQQCTLLSIKT*GGCSEDCSYCPQ*SSKYDTGVKGQRLMNKEAVLQAAKKAKEAGSTRFCMGA ------RDAVLEAAKKAKEAGSTRFCMGA EIKSVYDSPLLDLLFHGAQVHRHVHNFREVQQCTLLSIKT*GGCSEDCSYCPQ*SSRYSTGVKAQRLMSKDAVIDAAKKAKEAGSTRFCMGA EIQAVYDSPLLDLLFHGAQ-----2995363 6321725 1705463 SID18 SID26 SID28 SID32 SID30 SID20 SID22 SID24

FIGURE 1 (page 2 of 2)

SID18	AWRETIGRKTNFNQILEYVKDIRGMGMEVCCTLGMLEKQQAEELKKAGLTAYNHNLDTSREYYPNIISTRSYDDRLQTLQHVREAGISVC
SID20	AWRETIGRKSNFNQILEYVKEIRGMGMEVCCTLGMIEKQQAEELKKAGLTAYNHNLDTSREYYPNIITTRSYDDRLQTLEHVREAGISIC
SID22	AWRETIGRKSNFNQILEYVKEIRGMGMEVCCTLGMIEKQQAEELKKAGLTAYNHNLDTSREYYPNIITTRSYDDRLQTLEHVREAGISIC
SID24	AWRETIGRKSNFNQILEYVKEIRGMGMEVCCTLGMIEKQQAEELKKAGLTAYNHNLDTSREYYPNIITTRSYDDRLQTLEHVREAGISIC
SID26	AWRDTVGRKTNFKQILEYVKEIRGMGMEVCCTLGMIEKQQAVELKQAGLTAYNHNLDTSREYYPNIITTRSYDERLETLQFVREAGINVC
SID28	AWRDTLGRKTNFNQILEYVKDIRDMGMEVCCTLGMLEKQQAVELKKAGLTAYNHNLDTSREYYPNIITTRTYDERLQTLEFVRDAGINVC
SID32	AWRETIGRKTNFNQILEYVKDIRGMGMEVCCTLGMLEKQQAEELKKAGLTAYNHNLDTSREYYPNIISTRSYDDRLQTLQHVREAGISVC
1705463	AWRDTIGRKTNFSQILEYIKEIRGMGMEVCCTLGMIEKQQALELKKAGLTAYNHNLDTSREYYPNVITTRSYDDRLETLSHVRDAGINVC
SID30	AWRDMRGRKTNLKNVKTMVSEIRGMGMEVCVTLGMIDAEQAQELKEAGLTAYNHNVDTSRDFYPKVITTRTYDERLDTIKNVREAGINVC
2995363	AWRDLNGRNRTFKNILEIIKEVRSMDMEVCVTLGMLNEQQAKELKDAGLTAYNHNLDTSREYYSKIISTRTYDERLNTIDNLRKAGLKVC
6321725	AWRDMKGRKSAMKRIQEMVTKVNDMGLETCVTLGMVDQDQAKQLKDAGLTAYNHNIDTSREHYSKVITTRTYDDRLQTIKNVQESGIKAC

TGGILGLGESEDDHIGFIYTLSNMSPHPESLPINRLVAIKGTPMAEELADPKSKKLQFDEILRTIATARIVMPKAIIRLAAGRYTMKETE SGGIIGLGEAEEDRVGLLHTLATLPTHPESVPINALVAVKGTPLED--QKP----VEIWEMIRMIATARITMPKAMVRLSAGRVRFSMPE SGGIIGLGEAEEDRVGLLHTLATLPTHPESVPINALVAVKGTPLED--QKP----VEIWEMIRMIATARITMPKAMVRLSAGRVRFSMPE SGGIIGLGEAEEDRVGLLHTLATLPTHPESVPINALVAVKGTPLED--QKP----VEIWEMIRMIATARITMPKAMVRLSAGRVRFSMPE SGGIIGLGEAEEDRVGLLHTLATLPSHPESVPINALLAVKGTPLED--QKP----VEIWEMIRMIATARIVMPKAMVRLSAGRVRFSMSE SGGIIGLGEAEEDRVGLLHTLSTLPTHPESVPINALVAVKGTPLED--QKP----VEIWEMIRMIATARIVMPKAMVRLSAGRVRFSMPE SGGIIGLGEAEEDRVGLLHTLATLPTHPESVPINALIAVKGTPLQD--QKP----VEIWEMIRMIASARIVMPKAMVRLSAGRVRFSMPE SGGIIGLGEAEEDRIGLLHTLATLPSHPESVPINALLAVKGTPLED--QKP----VEIWEMIRMIGTARIVMPKAMVRLSAGRVRFSMSE TGGILGLGENKSDHIGLLETVATLPSHPESFPVNMLVAIKGTPLEG--NKK----VEFENMLRMVATARIVMPKTIVRLAAGRGELSEEQ SGGILGLGEKKHDRVGLIHSLATMPTHPESVPFNLLVPIPGTPVGDAVKER----LPIHPFLRSIATARICMPKTIIRFAAGRNTCSESE SGGIIGLGEAEEDRVGLLHTLATLPTHPESVPINALIAVKGTPLQD--QKP----VEIWEMIRMIASARIVMPKAMVRLSAGRVRFSMPE 1705463 2995363 6321725 SID30 SID26 SID28 SID22 SID24 SID32 SID20 SID18

SID18	QALCFLAGANSIFAGEKLLTTANNDFDADQAMFKILGLIPKAPNFGDEEATVASSTERCEQAASM
SID20	QALCFLAGANSIFAGEKLLTTANNDFDADQAMFKILGLIPKAPSFGEEEASAAAPTESERSEQAASM
SID22	QALCFLAGANSIFAGEKLLTTANNDFDADQAMFKILGLIPKAPSFGEEEVSAAAPAESERSEQAASM
SID24	QALCFLAGANSIFAGEKLLTTANNDFDADQAMFKILGLIPKAPSFGEEEASAAAPTESERSEQAASM
SID26	QALCFLAGANSIFTGEKLLTTPNNDFDADQMMFKILGLTPKAPNFDQTSTSFEAERCEQEATAS-
SID28	QALCFLAGANSIFTGEKLLTTPNNDFDADQLMFKVLGLLPKAPSLHEGETSVTEDYKEAASSS
SID32	QALCFLAGANSIFAGEKLLTTANNDFDADQAMFKILGLIPKAPNFGDEEVMVAAPTERCEQAALM
1705463	QALCFLAGANSIFTGEKLLTTPNNDFDADQLMFKTLGLIPKPPSFSEDDSESENCEKVASASH
SID30	QVLCFMAGANAVFTGETMLTTPAVGWGVDSVVFNRWGLRPMESFEVEALKNDKPATTNTEIPVEASKAEMPGTVA
2995363	QALAFMAGANAVFTGEKMLTTPAVSWDSDSQLFYNWGLEGMQSFEYGTSTEGEDGTFTLPPKERLAPSPSL
6321725	QFVCFMAGCNSIFTGKKMLTTMCNGWDEDKAMLAKWGLQPMEAFKYDRS

<u>ngyunasa tatog</u>

FIGURE 2: Clone cdt2c.pk002.c17 Contains a 99 Nucleotide Deletion

SID19 CG1 SID21 CG1 SID19 TC7	SID19 CGACTGGAGCCGGCCCGAGATCCAGGCCGTCTACGACTCACCGCTCCTCGACCTCCTCT SID21 CGACTGGAGCCGGCCCGAGATCCAGGCCGTCTACGACTCACGCTCCTCGACCTCCTCTT SID19 TCACGGGGCTCAG
SID21 TC	SID21 TCACGGGGCTCAGGTCCACAGAAATGTCCATAAATTCAGAGAAGTGCAGCAATGCACACT
SID19 SID21 TC1	SID19TCATCAAGACTGGTGGATGCAGTGAAGATTGTTCTTACTGTCCTCAGTCATCAAG
SID19 AT	SID19 ATACAACACTGGATTGAAGGCCCCAAAATTGATGAACAAATATGCTGTCTTGGAAGCAGC
SID21 AT	ATACAACACTGGATTGAAGGCCCAAAAATTGATGAACAAAGATGCTGTCTTGGAAGCAGC